User's Guide

hp StorageWorks UDO Driver Version 1.04

For the hp StorageWorks 30ux Standalone UDO Drive

Second Edition (July 2004)

Part Number: 5969-5769

This guide provides an overview for the installation and use of the UDO driver software version 1.04 for MS Windows operating systems, including Windows 2000 Professional and Windows XP Professional.

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About this Guide

This user's guide provides information to help you:

- Install the UDO driver software
- Use the UDO driver software

"About this Guide" topics include:

- Related documentation, page 6
- Getting help, page 9

Related documentation

In addition to this guide, HP provides corresponding information:

- *HP StorageWorks 30ux Standalone UDO Drive Getting Started Poster*
- *HP StorageWorks 30ux Standalone UDO Drive Setup Guide*

Conventions

Conventions consist of the following:

- Document conventions
- Text symbols

Document conventions

This document follows the conventions in Table 1.

Table 1: Document conventions

Convention	Element
Blue text: Figure 1	Cross-reference links
Bold	Menu items, buttons, and key, tab, and box names
Italics	Text emphasis and document titles in body text
`Monospace font`	User input, commands, code, file and directory names, and system responses (output and messages)
`Monospace, italic font`	Command-line and code variables
Blue underlined sans serif font text (http://www.hp.com)	Web site addresses

Text symbols

The following symbols may be found in the text of this guide. They have the following meanings:

WARNING: Text set off in this manner indicates that failure to follow directions in the warning could result in bodily harm or death.

Caution: Text set off in this manner indicates that failure to follow directions could result in damage to equipment or data.

Tip: Text in a tip provides additional help to readers by providing nonessential or optional techniques, procedures, or shortcuts.

Note: Text set off in this manner presents commentary, sidelights, or interesting points of information.

Getting help

If you still have a question after reading this guide, contact an HP authorized service provider or access our web site: http://www.hp.com.

HP technical support

Telephone numbers for worldwide technical support are listed on the following HP web site: http://www.hp.com/support/. From this web site, select the country of origin.

Note: For continuous quality improvement, calls may be recorded or monitored.

Be sure to have the following information available before calling:

- Technical support registration number (if applicable)
- Product serial numbers
- Product model names and numbers
- Applicable error messages
- Operating system type and revision level
- Detailed, specific questions
- HP StorageWorks Library and Tape Tools support ticket (if applicable)

HP storage web site

The HP web site has the latest information on this product, as well as the latest drivers. Access storage at http://www.hp.com/country/us/eng/prodserv/storage.html. From this web site, select the appropriate product or solution. You can also access the HP UDO web site at http://www.hp.com/go/UDO.

HP authorized reseller

For the name of your nearest HP authorized reseller:

- In the United States, call 1-800-345-1518
- In Canada, call 1-800-263-5868
- Elsewhere, see the HP web site for locations and telephone numbers: http://www.hp.com.

Installing the Software

1

This chapter describes the following:

- Preparing for installation, page 12
- Installation, page 14

Preparing for installation

Important: Before using the UDO driver software, make sure you read the License Agreement that was provided with the software. You will see the same agreement during the installation process. If you do not accept the terms of the agreement, you may cancel before the UDO driver software is installed on your computer's disk drive. By installing the software, you acknowledge that you have read the License Agreement, that you understand it, and that you agree to be bound by the terms and conditions.

System requirements

The following system requirements must be met in order to use the UDO driver software:

- Pentium 150 MHz or greater
- 64 MB for Windows 2000 Professional and Windows XP Professional
- Supported UDO drives using a SCSI interface
- Download the Microsoft Security Patch KB835732 for Windows 2000 and Windows XP Professional. This allows the operating system to recognize an 8K sector sized device.

Note: The corresponding security patch for Windows Server 2003 will be available soon through Microsoft.

Caution: Due to limitations of the Windows operating system, 8192 byte/sector media can cause Windows operating systems to "blue screen" during boot up if media is loaded in the drive.

There is a kernel fix for Windows 2000 and Windows XP Professional (Microsoft Security Patch KB835732) available for this problem from Microsoft support at http://support.microsoft.com/common/international.aspx. Select your country from the drop-down list. The patch is also in the Microsoft July 2004 Security Update on Microsoft's security website at: http://microsoft.com/security/default.mspx.

This problem is referenced in Microsoft Knowledge Base Article 831293. Be aware that while the article itself does not list a work-around, the appropriate kernel fix is available from Microsoft. There is no charge for the fix.

For detailed information, please see the article *Windows and 8K devices* at http://www.hp.com/go/udo.

- If using Microsoft Windows 2000, service pack level 4 or above is required
- Download the latest HBA drivers from http://www.hp.com/go/support

Installation

Caution: Before installing the UDO driver software, be sure that no other driver letter access UDF software is installed. This will conflict with the UDO driver software and may cause your system to stop booting. Uninstall any conflicting software before proceeding with the UDO driver software installation.

To install the UDO driver software on your system:

1. Run SETUP.EXE, located on the *UDO Driver Software* CD.
2. Reboot Windows in order for the UDO drivers to load.

You can now use the UDO drive and media on your Windows system.

Note: When installing and uninstalling the UDO driver software for Windows 2000, the command prompt boxes will automatically open and run, showing the drivers that are being installed or uninstalled. When the processes have completed, you will be given the option to restart your computer.

Using the Software

2

This chapter describes the following:

- UDO driver software overview, page 16
- About Universal Disk Format (UDF), page 17
- Formatting a UDO disk, page 18
- Using a Write Mode, page 20

UDO driver software overview

The UDO driver software enables you to read and write UDO disks, as you would with floppies for example. The UDO driver software installs a drive letter for the UDO drive and allows you to read from and write to supported UDO disks using Windows Explorer and the Open and Save menu items within your applications. The UDO driver software is fully integrated into the Windows operating system. Consequently, there is no separate application interface as with traditional mastering software.

Note: This driver software is for use only with HP StorageWorks 30ux Standalone UDO drives, and does not support any automated jukebox products. You must use a supported third party software package to access jukebox products.

Supported media

This version of the UDO driver supports the following media:

- UDO 30GB Rewritable:
  - HP part number Q2031A

Note: WORM media is not supported at this time.

For more information or to purchase HP media, go to http://www.hp.com/go/storagemedia.

About Universal Disk Format (UDF)

UDF is the key software technology that enables optical disks to be the true standard for digital convergence. UDF is the standard data format for all optical disks, which ensures universal compatibility with optical devices worldwide. The UDF format is created by the UDF file system. Based on ISO 13346, UDF is an internationally recognized standard developed by the Optical Storage Technology Association (OSTA).

The UDO driver software is fully compliant with UDF 1.02, 1.5, 2.0 and 2.01. Because this is a globally recognized standard, the UDF file system is guaranteed to be accessible decades into the future. The first international standardization of optical media was in 1987 when the ISO 9660 specification was adopted for the compact disk (CD). ISO 9660 provided a common file system to store and retrieve files. Now with ISO 13346, the UDF file system builds upon this universally agreed framework by adding the necessary capacity and functionality demanded by today's information and multimedia market.

Note: For more information on UDF, visit OSTA's web site at http://www.osta.org.

Formatting a UDO disk

Note: For general information on Rewritable disks, refer to the *HP StorageWorks 30ux Standalone UDO Drive User's Guide* that shipped with the product.

To create a data disk using the UDO driver software:

1. Ensure the HP StorageWorks 30ux standalone UDO drive has been properly installed. Refer to the *HP StorageWorks 30ux Standalone UDO Drive Setup Guide* that shipped with the product.
2. Insert a blank UDO disk into the standalone UDO drive.
3. Once the standalone UDO drive recognizes the disk, right-click on its drive icon. A pop-up menu will appear.
4. Choose **Format** from the menu. A dialog box will appear (see Figure 1).

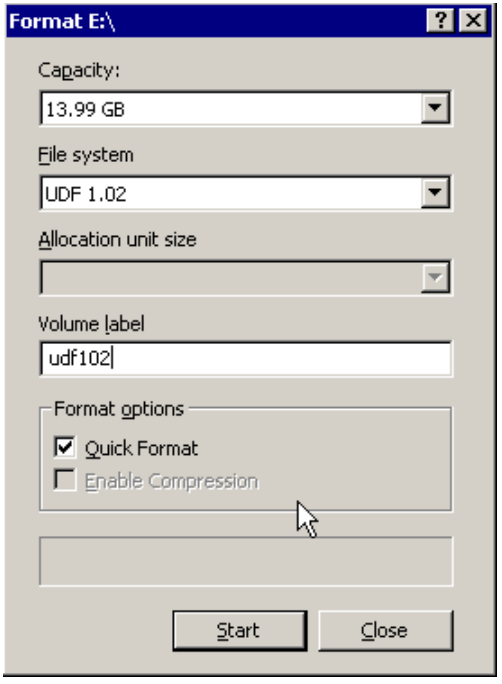


Figure 1: Format dialog box

Note: The **Capacity** field shows the formatted size of the UDO disk. This is the per side size of the double-sided cartridge.

5. From the **File system** field, select the UDF version that you want to use.

Note: For the widest interchange, use UDF version 1.02. For interchange with the newest operating systems, use UDF version 2.01.

6. Leave the **Allocation unit size** field empty. This option is always grayed out because the UDF specification requires this to be set to the physical block size of the media.
7. Assign a name in the **Volume label** field. The name can be up to 256 characters in length.
8. Under **Format options**, select the **Quick format box** to do a high-level format of the file system only.

Note: If you uncheck this option, the format will do a full low-level certification of the media where the drive checks every sector on the disk. This process will take upwards of three hours per side.

9. Click on **Start**. The progress bar in the lower part of the dialog box indicates that formatting is taking place.
10. A window appears indicating that formatting is complete. Click on **OK**.

The format is complete. Use the disk icon as you would any other volume. You can drag and drop files to the disk, erase files from it, do **Save** and **Save As** functions from applications, and change file formats.

Using a Write Mode

The UDO driver software can write data to the UDO disk in two modes.

- **Direct Write Mode** turns off any caching in the software and writes the data directly to the UDO disk. This mode is slower but safer in that unwritten data does not remain in the operating systems caches where a power failure or system crash could cause the data to be lost.
- **Cached Write Mode** turns on the system caches so that data is written first to the computer's memory before being written to the disk. This mode increases performance, but there is a slight risk of data loss if your system loses power or locks up prior to the data in the cache being fully written to the disk.

To change between **Direct Write Mode** and **Cached Write Mode**:

1. Right-click on the standalone UDO drive icon and select **Properties** from the menu.
2. From the **Properties** window, select the **Write Mode** tab to view the current write mode setting (see Figure 2).

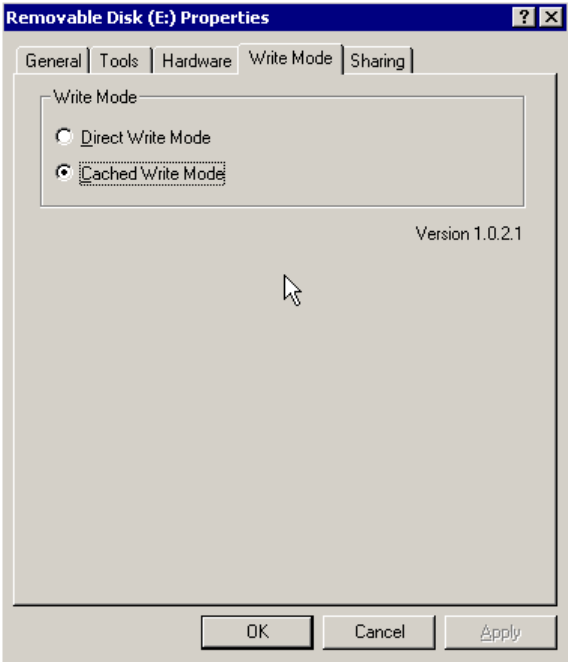
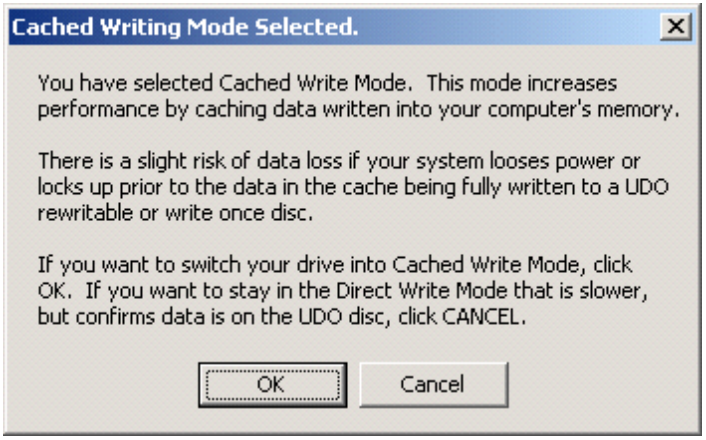


Figure 2: Write Mode properties tab

3. Select the radio button for the setting that you want to use and click on the **Apply** button to activate the change.

Note: When selecting Cached Write Mode, a confirmation window will appear reminding you of the possibility of data loss as previously explained. If you wish to proceed, click **OK**.



Troubleshooting

3

This chapter includes information on troubleshooting the UDO driver software.

Frequently Asked Questions (FAQs)

If you have difficulties with the UDO driver software, review the common problems listed in Table 2 and try each solution. If the FAQs do not address or resolve your problem, visit http://www.hp.com/go/udo for additional assistance, or contact HP technical support (see "Getting help" on page 9).

Table 2: FAQs

Problem	Solution
The **Tools** tab on the **Microsoft Device Properties** menu does not appear to be working.	This function is not supported for UDO devices.
Just after finishing a copy to the UDO disk in Windows Explorer, I ejected the disk from the drive and the system says that I cannot eject the disk because the disk is locked.	The system may still be copying data to the UDO disk drive even though Explorer says that the copy has finished. Wait for the activity indicator light on the standalone UDO drive to turn off before ejecting the disk.
I get a drive letter for my standalone UDO drive, but I am not able to write to my disk.	■ The disk may need to be formatted. If other disks work but a particular piece does not, then it may need to be formatted. ■ The disk may be defective. If other disks work, you may have a defective disk, or the disk might be incompatible with the drive. Refer to the *HP StorageWorks 30ux Standalone UDO Drive User's Guide* for information on compatible media. ■ If no other disk works, try the solutions listed under the problem *"I cannot get a drive letter for my standalone UDO drive".*

Table 2: FAQs (Continued)

Problem	Solution
I can read from my standalone UDO drive, but cannot write to it.	■ Another device driver is interfering with the UDO driver software. Make sure that all other device driver software that could try to support the drive is disabled for the drive or removed from the system. The UDO driver software driver must be controlling the device in order to be able to write to it. ■ The disk is write-protected. Change the disk so that it is not write-protected. See the documentation that came with the media or refer to the *HP StorageWorks 30ux Standalone UDO Drive User's Guide* for information on write-protect settings. ■ The device driver has not been installed. The UDO driver software drivers should be installed in the directory System32/Drivers/ for Windows 2000 and XP. Uninstall and then reinstall the UDO driver software to ensure that is has been installed correctly.

Table 2: FAQs (Continued)

Problem	Solution
I cannot get a drive letter for my standalone UDO drive.	■ Another device driver is interfering with the UDO driver software. Make sure that there are no other UDF file systems installed. ■ The device driver has not been loaded for the standalone UDO drive. The UDO driver software drivers should be installed in the directory System32/Drivers/ for Windows 2000 and XP. Uninstall and then reinstall the UDO driver software to ensure that is has been installed correctly. ■ The Device Manager is not recognizing the drive. Check to make sure the SCSI bus is properly terminated, the cables are securely attached, and that the standalone UDO drive is powered on. ■ There are SCSI ID conflicts. Resolve any conflicts. Two SCSI peripherals set to the same SCSI ID will cause your computer to hang or act erratically. Normally, the SCSI host bus adapter (HBA) has been preset at ID 7. Check to make sure that all drives connected to not conflict with each other or the SCSI HBA.

Table 2: FAQs (Continued)

Problem	Solution
I cannot select the standalone UDO drive's **"Format . . . "** menu item.	■ The standalone UD drive was not powered on at boot time. At boot time, the SCSI HBA reports to Windows what drives are connected to it. Make sure that the standalone UDO drive is properly terminated and powered on while your computer is booting up. ■ There are problems with the SCSI HBA. In the **System Control Panel**, select the **Device Manager** and check that: — the SCSI HBA is listed — there are no symbols indicating that the HBA is not properly configured for Windows. If you continue to have problems, you may need to contact the HBA manufacturer. ■ There are problems with cabling termination. — When using SCSI devices, always make sure that each device has the correct SCSI ID assigned to it. — Also make sure that the last device has either a termination block or that the jumper settings are correctly set to provide internal termination.
The server hangs during boot or just after logging in.	■ The driver and/or needed patch may not be installed. — Turn off the UDO drive and reboot the server. — Verify that the correct driver and patch are installed. ■ Media in the drive may be hanging the system. Eject the media from the drive and reboot the server.

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